This Week in Science

Balooning Around Venus

Science: The Best and Worst of Times

Shakespeare and Statistics: O. Driver; G. Kolata • Mexican Seed Bank: D. C. Jewell; M. Sun • The Dot: Alternative Notation: M. Pearl • Black Holes—"Ingestars": W. A. Shurcliff

DOE's Way-Out Reactors • Shooting Plutonium into Space

Engineering Crops to Resist Weed Killers • Calgene Breaks New Ground

Long-Range Forecasting: Truth or Consequences

McLean-AMI Agree on Joint Venture

Briefing: NIH Gets a Friendly Hearing on Capitol Hill • Congress Likely to Halt Shrinkage in AIDS Funds • Fletcher Nominated as New NASA Chief • Formaldehyde Poses Little Risk, Study Says

VEGA's 1 and 2 Visit Halley

How Killer Cells Kill Their Targets

Weather Balloons at Venus

Testing Superposition in Quantum Mechanics • Delayed Choice Supports Quantum Theory

Cost of Space-Based Laser Ballistic Missile Defense: G. Field and D. Spergel

Rates of DNA Sequence Evolution Differ Between Taxonomic Groups: R. J. Britten

The 1985 Nobel Prize in Economics: P. A. Samuelson

Structure of Tobacco Mosaic Virus at 3.6 Å Resolution: Implications for Assembly: K. Namba and G. Stubbis

VEGA Venus Balloon Experiment

The VEGA Venus Balloon Experiment: R. Z. Sagdeev, V. M. Linkin, J. E. Blamont, R. A. Preston


■ SCIENCE is published weekly on Friday, except the last week in December, by the American Association for the Advancement of Science, 1333 H Street, NW, Washington, DC 20005. Second-class postage (publication No. 484460) paid at Washington, DC, and at an additional entry. Now combined with The Sciences Monthly® Copyright © 1966 by the American Association for the Advancement of Science. Domestic individual membership and subscription (51 issues): $60. Domestic institutional subscription (51 issues): $98. Foreign postage extra: Canada $24, other, (surface mail) $27, air-surface via Amsterdam $65. First class, airmail, school-year, and student rates on request. Single copies $2.50 ($3 by mail); back issues $4 ($4.50 by mail); Biotechnology issue, $5.50 ($6 by mail); classroom rates on request. Change of address: allow 6 weeks, giving old and new addresses and seven-digit account number. Authorization to photocopy material for internal or personal use under circumstances not falling within the fair use provisions of the Copyright Act is granted by AAAS to libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of $1 per copy plus $0.10 per page is paid directly to CCC, 21 Congress Street, Salem, Massachusetts 01970. The identification code for Science is 0036-8075/85 $1 + .10. Postmaster: Send Form 3579 to Science, 1333 H Street, NW, Washington, DC 20005. Science is indexed in the Reader's Guide to Periodical Literature and in several specialized indexes.

The American Association for the Advancement of Science was founded in 1848 and incorporated in 1874. Its objects are to further the work of scientists, to facilitate cooperation among them, to foster scientific freedom and responsibility, to improve the effectiveness of science in the promotion of human welfare, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress.
Test flight in Earth’s atmosphere of balloon and gondola system similar to two placed in the atmosphere of Venus in June 1985 by the VEGA spacecraft. These were the first balloons to float in the atmosphere of another planet. Gondola instruments measured in situ meteorological parameters; a world-wide network of 20 ground-based antennas monitored the Venus winds by means of radio signals transmitted by the balloons. See pages 1407–1425.

[Photo: V. M. Linkin, Space Research Institute, Moscow, U.S.S.R.; emblem: R. A. Preston, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91125]


1414 Determination of Venus Winds by Ground-Based Radio Tracking of the VEGA Balloons: R. A. Preston, C. E. Hildebrand, G. H. Purcell, Jr., J. Ellis, C. T. Stelzried, S. G. Finley, R. Z. Sagdeev, V. M. Linkin, V. V. Kerzhanovich, V. I. Altunin et al.


1420 Thermal Structure of the Venus Atmosphere in the Middle Cloud Layer: V. M. Linkin, V. V. Kerzhanovich, A. N. Lipatov, A. A. Shurupov, A. Seiff, B. Ragent, R. E. Young, A. P. Ingersoll, D. Crisp, L. S. Elson, R. A. Preston, J. E. Blamont

1422 Implications of the VEGA Balloon Results for Venus Atmospheric Dynamics: J. E. Blamont, R. E. Young, A. Seiff, B. Ragent, R. Sagdeev, V. M. Linkin, V. V. Kerzhanovich, A. P. Ingersoll, D. Crisp, L. S. Elson, R. A. Preston, G. S. Golitsyn, V. N. Ivanov

1425 Southern Hemisphere Origin of the Cretaceous Laytonville Limestone of California: J. A. Tarduno, M. McWilliams, W. V. Sliter, H. E. Cook, M. C. Blake, Jr., I. Premoli-Silva


1437 Two Elements in the Bovine Leukemia Virus Long Terminal Repeat That Regulate Gene Expression: D. Derse and J. W. Casey

Book Reviews

1451 Community Ecology, reviewed by R. M. May ■ Cognitive Learning and Memory in Children and Basic Processes in Memory Development, S. J. Ceci ■ Phanerogamic Earth History of Australia, J. K. Weissel ■ Books Received

Products & Materials

1455 Mass Spectrometer ■ Pocket Calculator with Display ■ Mantles ■ Chromatography System ■ Scanning Electron Microscope ■ Personal Computer ■ Literature